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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,986	03/01/2002	Gerard O'Driscoll	TD-166	6316

29106 7590 09/24/2003

ROBERT GROOVER III
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EXAMINER

CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,986

Applicant(s)

O'DRISCOLL, GERARD

Examiner

Antonio A Caschera

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-8 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

It seems that claim 4 is incomplete, which begins to further narrow a limitation of independent claim 1 however ends abruptly in mid-sentence. Therefore, claim 4 is in improper dependent form since none of the limitations found in independent claim 1, from which claim 4 is dependent upon, are further limited by claim 1 (see line 1 of claim 4). Further, no art rejection will be made since there is no patentable substance disclosed in claim 4.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong et al. (U.S. Patent 6,172,680 B1).

In reference to claims 1 and 5, Wong et al. discloses a method for providing video graphics processing including anti-aliasing of an object's edges by walking a first and second edge of an object element (see lines 1-5 of abstract). Wong et al. discloses an example of the

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object to be a triangle and an object element to be the left edge of the triangle (see column 2, lines 57-61). Note, the office interprets the edge of an object element (i.e. an edge of the triangle as disclosed above by Wong et al.) substantially similar to the anti-aliased lines of applicant's claim 1 as polygons are made up of primitive graphical lines. Wong et al. also discloses for two edges of the triangle, or two line segments of the triangle, determining which orientation class the line falls into by edge walking and using an error term and threshold value to determine in which direction, a major or minor direction, to walk (see column 11, lines 40-66 and Figure 6). Wong et al. discloses determining different subpixel masks, which are then processed to produce pixel information for a given pixel (see column 1, lines 36-38), dependent upon the changes in the X and Y traversed directions (see columns 12-13, lines 53-9 and Figure 9). Note, the office interprets the subpixel masks substantially similar in functionality to the sampling patterns of applicant's claims and also believes the further processing of subpixel masks, discloses above by Wong et al., to be substantially similar to the sampling of subpixels. Note, in reference to claim 5, the office interprets that the edge walking of Wong et al. substantially determines a direction which is most nearly parallel to a line segment of an object since the edge walking of Wong et al. uses the difference in length between the major axis and the edge (see "error terms" of Figure 6) to decide if and when to walk in the minor direction. Further, since Wong et al. discloses determining different subpixel masks, which are then processed to produce pixel information for a given pixel (see column 1, lines 36-38), dependent upon the changes in the X and Y traversed directions (see columns 12-13, lines 53-9 and Figure 9), the office interprets the subpixel masks having maximal resolution normal to the direction they're calculation is based upon (i.e. major direction) versus the opposite direction (i.e. minor direction).

In reference to claim 2, Wong et al. discloses all of the claim limitations as applied to claim 1 above in addition, Wong et al. discloses the edge walking process to operate in the two directions of X and Y (see column 11, lines 52-66 and Figure 6).

In reference to claim 3, Wong et al. discloses all of the claim limitations as applied to claim 1 above in addition, Wong et al. discloses the creation of the subpixel masks to be dependent upon the slope of the previous direction taken or the orientation of the line determined by edge walking (see columns 12-13, lines 63-9).

In reference to claim 6, Wong et al. discloses all of the claim limitations as applied to claim 5 above in addition, Wong et al. discloses the edge walking process to operate in the two directions of X and Y (see column 11, lines 52-66 and Figure 6).

In reference to claims 7 and 8, Wong et al. discloses all of the claim limitations as applied to claims 1 and 5 respectively above in addition, Wong et al. discloses a video graphics processor including a processing unit for executing the above disclosed methods (see column 12, lines 18-35 and Figures 7 and 8).

References Cited

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Levine (U.S. Patent 5,815,162)
 - Levine discloses a system and method for drawing anti-aliased lines using a modified integer Bresenham line drawing algorithm.
- b. Kaasila (U.S. Patent 6,437,793 B1)

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- Kaasila discloses a system performing anti-aliasing upon outline fonts and other graphical elements.
- c. Wong et al. (U.S. Patent 6,501,483 B1)
- Wong et al. discloses a method and apparatus for an anti-aliasing process that allows for super-sampling at a high subpixel resolution, not requiring typical processing and memory resources.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso, can be reached at (703)-305-3885.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

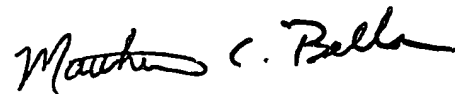
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

aac

9/17/03



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600